

### **REMARKS**

Claims 1, 3, 4, and 6-10 are currently pending in the present application. Claims 11 and 12 are cancelled. Claims 1 and 7 have been amended. Support for the amendments to the claim set can be found at paragraph [0025] of Applicants' published application or page 11, lines 15-34 and Example 1, page 18, lines 3-18 of the English translation of the application. No new matter is presented by any of the amendments.

Applicants have carefully studied the outstanding Office Action. The present Response is intended to be fully responsive to all points of rejection raised by the Examiner and is believed to place the application in condition for allowance. Favorable reconsideration and allowance of this application is respectfully requested. Applicants respectfully request reconsideration and withdrawal of the Examiner's rejections in view of the foregoing amendments and following remarks.

#### **Claim Rejections – 35 USC § 103**

Claims 1, 3, 7-9, 11, and 12 have been rejected under 35 U.S.C. § 103(a) as being obvious over Marutani, JP 06-220397 (hereafter "Marutani").

Claims 1, 3, 4, and 6-12 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Moriya et al., US 5,821,315 (hereafter "Moriya") in view of Marutani.

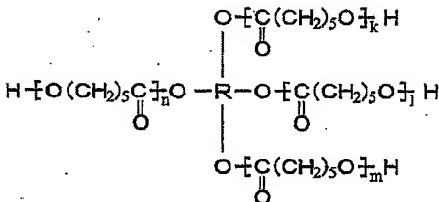
Claims 1, 3, 4, 7-9, 11, and 12 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hayakawa et al., WO 96/34064 (US equivalent of 6,689,839) (hereafter "Hayakawa") in view of Marutani.

#### **Applicants' Response**

The amended claims 1 and 7 recite "a lactone tetraol (C) having **four hydroxyl groups** per molecule, wherein the average molecular weight of the lactone tetraol (C) is 350 to 1500."

As previously stated, this is supported by the description of page 11, lines 15-34 and Example 1 mentioned at page 18, lines 3-18. The lactone polyol such as the lactone tetraol of the present invention is blended to enhance scratch resistance, chipping resistance and impact resistance as well as improve the appearance of the coated film without impairing the stain resistance of the coated film.

A chemical formula of the lactone tetraol is as follows:



Marutani, JP 06-220397, discloses a urethane coating composition comprising an acrylic resin having hydroxyl number of 140-280, an oligoester having hydroxyl number of over 80, and isocyanate pre-polymer. The average molecular weight of the oligoester is 400-2000. However, Applicants respectfully assert that Marutani fails to disclose or teach the claimed feature as recited by the amended claims regarding a lactone tetraol having four hydroxyl groups per molecule, wherein the average molecular weight of the lactone tetraol is 350 to 1500. All limitations of the claimed invention must be considered when determining patentability. *In re Lowry*, 32 F.3d 1579, 1582, 32 U.S.P.Q.2d 1031, 1034 (Fed. Cir. 1994).

As to the oligoester, Marutani states in its paragraph 0014 that the oligoester is obtained by reacting 1 to 6 moles of ε-caprolactone with polyhydroxylic alcohol with respect to 1 mole of hydroxyl group thereof. However, no examples of any polyhydroxylic alcohol having four

hydroxyl groups are shown. Accordingly, one skilled in the art, having read Marutani, would not be motivated to select a lactone tetraol having four hydroxyl groups, as claimed by the present application.

As to the acrylic resin (A), claims 1 and 7 recite: the hydroxyl number of the (meth)acrylic resin (A) is 125 to 145 mg KOH/g and the average value of the number of caprolactone repetitive units in the polycaprolactone-modified hydroxyalkyl (meth) acrylate is 2 to 3. In contrast, Marutani describes an acrylic resin having the hydroxyl number of 140 to 280. Thus, the optimum range disclosed in Marutani is 140 to 280. Marutani, therefore, fails to disclose acrylic resins that satisfy the claimed ranges of the hydroxyl number of the acrylic resin of 125 to 145 mg/KOH/g. Although there is an overlap of 5, there is nothing taught, disclosed or suggested in Marutani that the optimum range would fall below the lower limit of 140, as claimed by Applicants. In fact, the range disclosed in Marutani actually teaches away from the range claimed by Applicant in teaching an optimum range higher than that claimed by Applicants. Moreover, Applicants respectfully note that Examiner failed to explain where Marutani teaches or discloses the number of caprolactone repetitive units claimed by the present invention in claims 1 and 7. All limitations must be considered when determining patentability.

Moriya et al. disclose thermoset covering compositions including a vinyl copolymer, a blocked polyisocyanate compound, and an alkyl etherified amino resin. However, as acknowledged by the Examiner, Moriya et al. fail to disclose and teach the claimed feature (C) of claims 1 and 7. In addition, as Applicants have stated, Marutani fails to teach, disclose or suggest each and every limitation of claims 1 and 7, as amended. For example, the reference fails to disclose the limitation (A) as recited in the claims. Furthermore, as amended, the claims recite to a lactone tetraol (C) having four hydroxyl groups per molecule, wherein the average

weight of the lactone polyol is 350 to 1500. Thus, even if Moriya and Marutani could be successfully combined, which Applicants do not concede, the references fail to teach, disclose or suggest all the limitations of the claims, as originally submitted or as currently amended.

With regard to Hayakawa et al., WO 96/34064=US 6,689,839 E1 ("Hayakawa"), Hayakawa disclose thermoset paint compositions including fluorine containing copolymer, vinyl based copolymer, alkyl etherified melanine resin, and polyisocyanate compound. However, Hayakawa fail to disclose and teach the claimed feature of the amended claims in which a lactone tetraol (C) has four hydroxyl groups. Thus, even if this reference could be successfully combined with the cited Marutani, for all the reasons provided above, the combination would not teach or disclosed each and every limitation of the claims, as amended.

With further regard to claims 3-4, 6, and 8-10, if an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In Re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); MPEP 2143.03. These claims depends on nonobvious claims 1 or 7 and therefore, the claims 3-4, 6, and 8-10 are also nonobvious.

In view of the foregoing amendments and remarks, it is respectfully submitted that the present application is in condition for allowance and such action is respectfully requested.

### CONCLUSION

It is respectfully urged that the subject application is patentable over the references cited by Examiner and is now in condition for allowance. Applicants request consideration of the application and allowance of the claims in view of the foregoing amendments and remarks. If there are any outstanding issues that the Examiner feels may be resolved by way of a telephone conference, the Examiner is cordially invited to contact Colin P. Cahoon or Celina M. Diaz at 972-367-2001.

The Commissioner is hereby authorized to charge any additional payments that may be due for additional claims to Deposit Account 50-0392.

Respectfully submitted,

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